

REMARKS

In view of the preceding amendments and the comments which follow, and pursuant to 37 C.F.R. § 1.111, amendment and reconsideration of the Official Action of October 6, 2003 is respectfully requested by Applicant.

Summary

Claims 1 – 12 stand rejected. Claims 1, 7 and 8 are amended. New claims 13 – 21 are added. The specification has been amended. No new matter has been introduced as a result of these amendments.

Claims 1 – 21 are pending following entry of the present amendments.

Objections

The Examiner has objected to informalities found in the specification. The relevant section is a paragraph found on page 13, from line 4 on to line 22, starting with "The upper magnetic core layer 2...." and ending with "in the direction of height (represented by an arrow Y)." In this section, all references
5 to "york" has been replaced by the wording "yoke". Applicant therefore respectfully requests that the corresponding objections be withdrawn.

Rejection under 35 U.S.C. § 112

The Examiner has rejected claims 1- 12 under 35 U.S.C. 112, second paragraph as being indefinite for failing to point out and distinctly claim the subject matter containing subject matter which Applicants regard as the invention. Specifically, the Examiner points to the phrase "the front end portion" as being indefinite because it lacks antecedent basis. The Applicants have amended claims 1, 7 and 8 to remove the indefiniteness by providing a corresponding antecedent basis_in all relevant independent claims. Applicants therefore respectfully request that the rejections of claims 1 – 12 under 35 U.S.C. § 112 be withdrawn.

Rejection under 35 U.S.C. § 102

The Examiner has rejected claims 1 - 3 and 6 - 10 under 35 U.S.C. § 102 (e) as being anticipated by Ahagon et al. (Ahagon) (U.S. 6,407,885). The pending claim 1 has been amended to recite that "the upper magnetic core layer comprises a narrow-width pole region with the end portion thereof formed
5 on the gap layer on the lower magnetic pole layer, and a yoke region being wider in width than the pole region, arranged in continuity with a back end of the pole region", that "the width of the front end portion of the upper magnetic core layer combines with the width of the lower magnetic pole layer and the width of the gap layer to constitute the track width", and that "the upper magnetic core
10 layer is provided so as to cover the second insulator layer." These amendments find support in the original claims and the specification. Claim 1 has been amended by incorporating limitations from claim 3, and from the specification (see page 13, line 4 to page 14, line 7 and page 17, line 20 to page 18, line 5).

This amendment renders claim 1 distinguishable from Ahagon. In that, an upper magnetic layer comprises a narrow width pole region with the end portion thereof formed on a gap layer on a lower magnetic layer, and a combination of the widths of these three layers constitutes a track width. Thus, the amended claim defines a structure wherein a narrow track width at the front end portion of the upper magnetic core layer, i.e. front end portion of the yoke, is formed. Whereas in Ahagon, a cross sectional view of a thin film magnetic head, as shown in FIG. 34, comprises a lower magnetic pole 341 formed of a lower high Bs magnetic layer 163 and a shared shield section 141, an insulating layer 142 disposed serially to a lower high Bs magnetic layer 163, a gap layer 184, an upper magnetic pole 342 formed of an upper high Bs magnetic layer 195 and a yoke section 8. Further, as shown in Figure 35, the width 351 of yoke section 8 is made to be greater than the head track width, viz. the width 352 of the upper high Bs magnetic layer 195 and the lower high Bs magnetic layer 163 opposing to each other with the gap layer 184 interposed, a region of contact between yoke section 8 and upper high Bs magnetic layer 195

becomes greater. Therefore, in Ahagon the upper magnetic pole includes an upper magnetic layer ("write chip") and a yoke section layer, and further the track width corresponds to the width of the upper or the lower magnetic layer, 195 or 163 respectively, rather than the front end width of the yoke, i.e. width 351 instead of width 352. Hence, in Ahagon the track width is not defined by the front end portion of the yoke section layer, which is formed to cover the coil layer, as in the present invention. Therefore, amended claim 1 is not anticipated by Ahagon. Applicants submit that claim 1 is allowable, as well as claims 2 - 3 which depend on claim 1.

Regarding, the rejection of claims 7 - 10 under 35 USC 102(e), Applicants submit that claims 7 and 8 have been amended, and that their respective amendments mirror the above discussed amendments to claim 1. In that, the upper magnetic core layer includes a narrow-width pole region with the
5 end portion thereof formed on the gap layer on the lower magnetic pole layer, and a yoke region wider in width than the pole region, arranged in continuity with a back end of the pole region, that the width of a front end portion of the upper magnetic core layer combines with the width of the lower magnetic pole layer and the width of the gap layer to constitute the track width, and that the
10 upper magnetic core layer is provided so as to cover the second insulator layer. Thus, similarly to claim 1, claims 7 and 8 are not anticipated by Ahagon. As such, claims 7 and 8 are allowable, and so are claims 9 - 10. Applicants respectfully request that rejections of claims 1 - 3 and 6 - 10 under 35 U.S.C. § 102 (e) be withdrawn.

15 The new claims 13 - 17 find support in the specification, namely in the section found from page 19, line 21 to page 23, line 23, as it relates to the manufacturing method of the thin film magnetic head. These new claims 13 - 17 are dependent on claim 7, either directly or indirectly, and therefore allowable. Further, the new claims 18 - 21 find support in the specification as
20 they relate to the head structure of the thin film magnetic head. These new claims 18 - 21 are also allowable since dependent on the allowable claim 1.

Applicant therefore respectfully requests that the rejections of claims 1 - 3 and 6 - 10 under 35 U.S.C. § 102(e) be withdrawn.

Rejection under 35 U.S.C. § 103

The Examiner has next rejected claims 4 - 5 and 11 - 12 under 35 U.S.C. § 103 (a) as being unpatentable over Ahagon et al. in view of Yoda et al. (Yoda) (US 5,872,693). As discussed above, Ahagon does not disclose or teach the limitations of claims 1 and 8, and neither does Yoda. In Yoda, specifically in Figure 14, a rear body 16b of a magnetic pole of the upper magnetic core 16 has a wider width than a front body 16a of the magnetic pole of the upper magnetic core 16, in contrast to the claimed structure of amended claim 1. As such, claims 1 and 8 are not rendered unpatentable by Ahagon in view of Yoda. Therefore, claims 4 - 5 and 11 - 12 are also allowable, since dependent on claim 1, and on claim 8, respectively. Applicants respectfully request that rejections of claims 4 - 5 and 11 - 12 under 35 U.S.C. § 103 (a) be withdrawn.

Conclusion

Applicant submits that this application is now in condition for allowance, and favorable reconsideration of this application in view of the above amendments and remarks is respectfully requested. Allowance of claims 1 - 21 at an early date is earnestly solicited. If, there are additional fees due, Applicant requests that this paper constitutes any necessary petition and authorizes the Commissioner to charge any underpayment, or credit any overpayment, to Deposit Account No. 23-1925.

If the examiner finds that there are any outstanding issues which may be resolved by a telephone interview, the Examiner is invited to contact the undersigned at the below listed number

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Reply to Office Action of October 6, 2003

Respectfully submitted,

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